Paper No. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte KARL S. MILLS,
RICHARD C.A. OWEN,
and
MARK E. BONNELCKE

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Appeal No. 1999-2614
Application No. 08/667,826

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ON BRIEF

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Before FLEMING, RUGGIERO, and GROSS, Administrative Patent Judges.

RUGGIERO, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal from the final rejection of claims 1-22, which are all of the claims pending in the present application. An amendment filed March 26, 1999 after final rejection, which corrected a typographical error in claim 20, was approved for entry by the Examiner.

The claimed invention relates to a graphics controller circuit which includes a register file with a plurality of registers. Commands addressed to virtual registers are accepted by the graphics controller, and a plurality of instructions are generated including instructions to access one of the registers in the register file. According to Appellants (specification, page 6), by having commands which are directed to virtual registers and generating multiple instructions in response thereto, the graphics controller permits an access command to be combined into one command on the system bus, thereby minimizing the amount of data transferred over the system bus.

Claim 1 is illustrative of the invention and reads as follows:

> 1. A graphics controller circuit for use in a computer system, the computer system comprising a bus and a host, the host being coupled to the bus, comprising:
>
> a host interface for receiving a single command on the bus from the host, and generating a plurality of instructions in response to the command, at least one of the plurality of instructions comprising a set register instruction, and at least another of the plurality of instructions being an execute instruction; and
>
> an execution circuit, coupled to the host interface, for executing the plurality of instructions to execute the command.

The Examiner relies on the following prior art:

Grunewald et al. (Grunewald)	4,616,220	Oct. 07, 1986
Sone et al. (Sone)	5,452,469	Sep. 19, 1995
		(filed Dec. 09, 1993)

Claims 1-22 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Grunewald in view of Sone.

Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the Brief (Paper No. 19) and Answer (Paper No. 20) for the respective details.

OPINION

We have carefully considered the subject matter on appeal, the rejection advanced by the Examiner, the arguments in support of the rejection, and the evidence of obviousness relied upon by the Examiner as support for the rejection. We have, likewise, reviewed and taken into consideration, in reaching our decision, Appellants' arguments set forth in the Brief along with the Examiner's rationale in support of the rejection and arguments in rebuttal set forth in the Examiner's Answer.

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would not have suggested to one of ordinary skill in the art the obviousness of the invention as set forth in claims 1-22. Accordingly, we reverse.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073-74, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion, or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the Examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

With respect to each of independent claims 1, 8, and 16, the Examiner, as the basis for the obviousness rejection, proposes to modify the graphics controller system of Grunewald. According to the Examiner, Grunewald discloses the claimed invention except for the failure " . . . to explicitly teach at least one of plurality of instructions comprising a set register instruction and at least another of the plurality of instructions being an execute instruction." (Answer, page 3). To address this deficiency, the Examiner turns to Sone which, in the Examiner's view, discloses the claimed set register and execute instructions. The Examiner's stated position (id. at 4) suggests the obviousness to the skilled artisan of applying the set register and execution instruction teachings of Sone to the graphic controller system of Grunewald in order to achieve high resolution color graphic images.

In response, Appellants assert that the Examiner has not established a prima facie case of obviousness since all of the limitations of the appealed claims are not taught or suggested by the applied Grunewald and Sone references. After careful review of the applied prior art references in light of the arguments of record, we are in agreement with Appellants' position as stated in the Brief. As argued by Appellants (Brief, pages 8 and 9),

the Examiner has pointed to no disclosure in Grunewald that would suggest any support for the Examiner's assertion that Grunewald discloses the generation of a combined command for setting a register and executing an instruction as presently claimed. Our interpretation of the disclosure of Grunewald coincides with that of Appellants, i.e., while Grunewald describes the sending of pixel data as an address to a look up table to output the contents of the table at that particular address, we find no disclosure of the generation of a combined set register and execute command as claimed.

We have reviewed the Sone reference, applied by the Examiner (Answer, page 4) to supply a teaching of generating plural instructions including set register and execute instructions, and we find no disclosure which would overcome the innate deficiency of Grunewald disclosed above. As such, even assuming, arguendo, that the skilled artisan would have been motivated to make the Examiner's proposed combination, the resulting system would not possess the features present in the claims on appeal.

Further, even assuming the correctness of the Examiner's interpretation of the disclosure of Sone, we find no indication as to how and in what manner Sone would be combined with Grunewald. Although the Examiner has suggested the accomplishing

of high resolution color graphic images as motivation for the skilled artisan to modify Grunewald with Sone, we find no indication from the Examiner as to how such a combination would accomplish the desired result. The Examiner must not only make requisite findings, based on the evidence of record, but must also explain the reasoning by which the findings are deemed to support the conclusion of obviousness. See In re Lee, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1433-34 (Fed. Cir. 2002). In our opinion, any suggestion to modify the disclosure of Grunewald to add the plural instruction generating feature of Sone could only come from an improper attempt to reconstruct Appellants' invention in hindsight.

Accordingly, since the Examiner has not established a prima facie case of obviousness, the rejection of independent claims 1, 8 and 16, as well as claims 2-7, 9-14 and 17 dependent thereon, over the combination of Grunewald and Sone is not sustained.

Turning to a consideration of the Examiner's obviousness rejection of independent claims 15, 18, 20, and 22 and dependent claims 19 and 21, we do not sustain this rejection as well for all of the reasons discussed supra. In addition, we find no

disclosure in either of the applied Grunewald and Sone references of the execution of a command if the register address of a command is that of a virtual register as set forth in independent claims 15, 18, 20, and 22.

In summary, we have not sustained the Examiner's 35 U.S.C. § 103(a) rejection of any of the claims on appeal. Therefore, the decision of the Examiner rejecting claims 1-22 is reversed.

REVERSED

MICHAEL R. FLEMING Administrative Patent Judge	)	
JOSEPH F. RUGGIERO Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
ANITA PELLMAN GROSS Administrative Patent Judge	)	

JFR:hh

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